URS

May 7, 2007

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Rd, Sunol, CA
First Quarter 2007 Groundwater Monitoring Report

Dear Mr. Wickham:

In the December 30, 2005 letter provided by the Alameda County Environmental Health staff (ACEH), you requested the initiation of a Quartering Groundwater Monitoring Program. In response to your request, URS, on behalf of Chevron Pipe Line Company (Chevron), has prepared this groundwater monitoring report detailing measured groundwater levels, sampling methodologies, and groundwater analytical results for the Chevron Sunol Pipeline site (Site) for the first quarter of 2007. (A site vicinity map is included as Figure 1.) This groundwater monitoring report addresses concerns raised by the ACEH regarding further monitoring of groundwater contamination and its extent.

On February 20 and 21, 2007, URS conducted field activities to assess the groundwater conditions at the Site. As part of this field effort, URS measured the fluid levels and collected analytical samples from Site groundwater monitoring wells (MW-1 through MW-9). URS also collected a surface water sample for analysis from a new location along the very small stream, located northwest west of the release location, at the Site. The new sampling location is provided on Figure 2. The fluid levels, analytical results, and rationale for moving the surface water sampling location are provided below.

1.0 SITE HYDROGEOLOGY

Prior to collecting groundwater samples, the fluid levels were measured at each well from the top of casing using an electronic oil/water interface meter. Free product was measured in MW-9 with a thickness of 0.05 feet. Free product or sheen was not detected in the other eight wells (MW-1 through MW-8) during quarterly monitoring activities. The measured fluid levels are displayed in Table 1 and the calculated groundwater and product elevations are displayed in Table 2.

The groundwater elevations for the unconfined water-bearing zone wells (MW-1 through MW-4 and MW-9), located in the nursery, range from a high of 293.99 feet above average mean sea level (msl) at MW-3 to a low of 291.16 feet msl at MW-9. The groundwater elevation for MW-8, which screens an apparent recharge source for the nursery unconfined water-bearing zone, was

314.70 feet msl. Due to seasonal precipitation, the water table elevation increased, hydraulically reconnecting MW-3 and MW-4 to the unconfined water-bearing zone.

Based on data from MW-1 through MW-4 and MW-9, the local groundwater flow direction within the nursery unconfined water-bearing zone is in an easterly direction with a calculated hydraulic gradient of 0.043 feet/feet. The groundwater recharge from the hillside appears to flow into the unconfined nursery water-bearing zone in a northwesterly direction with a steep hydraulic gradient. The hydraulic gradient for the hillside has not been calculated because MW-8 is the only well screened in the apparent hillside recharge source area. Figure 3 provides groundwater contours for the local recharge source and the unconfined water-bearing zone as well as bedrock surface contours for the gravel-siltstone contact for comparison.

The potentiometric surface elevations for the confined sandstone water-bearing zone wells (MW-5 through MW-7), located along the eastern shoulder of Calaveras Road, range from 314.70 to 323.40 ft above msl, with the highest groundwater elevation measured from MW-5, the middle well. The groundwater flow direction and hydraulic gradient have not been calculated for the confined sandstone water-bearing zone because these wells are installed in essentially a straight line along Calaveras Road for monitoring purposes. The relative groundwater elevations for these wells are similar with previous quarterly groundwater levels and will continue to be monitored during future quarterly groundwater sampling events. The groundwater elevations for these wells are displayed on Figure 4.

2.0 QUARTERLY MONITORING ACTIVITIES

After measuring the groundwater level at each well, URS began groundwater sampling. MW-1 through MW-5 were purged using low-flow methods. Due to insufficient recharge MW-6 through MW-8 were purged dry and then allowed to recharge prior to sampling. MW-9 was not sampled due to the presence of free-product.

Both purging methods were conducted using disposable low-density polyethylene (LDPE) tubing and a stainless steel electronic submersible continuous discharge pump.

A surface water sample was also collected from a new location along the very small stream northwest west of the release location (Figure 2).

2.1 MW-1 THROUGH MW-5

After re-measuring the groundwater levels at MW-1 through MW-5, the pump intake was slowly lowered into position in either the center of each well screen if the water level was higher than the top of the screen or the center of the water column if the water level was lower than the top of the screen.

Low-flow purging rates were between 250 to 900 milliliters per minute (mL/min) depending on the rate of recharge at each well. During low-flow purging, the water level in each well was measured periodically to monitor draw down. In all of the unconfined water-bearing zone wells (MW-1 through MW-4) a stabilized draw down of less than 0.33 feet was achieved. Although the draw down at MW-5 was greater than 0.33 feet, the water level stabilized at 2.44 feet below the static water level after an initial drop when purging began. The static and final groundwater levels before and after sampling are provided on the low-flow groundwater sampling forms for monitoring wells MW-1 through MW-5, included in Attachment A.

In addition to monitoring the water level at each well during low-flow sampling, parameters such as temperature, pH, conductivity, oxygen reduction potential (ORP), dissolved oxygen (DO) and turbidity of the groundwater were monitored using an in-line flow-through cell and multi-parameter device. The multi-parameter device was calibrated both days prior to sampling. During purging, the parameter readings described above were recorded every 3 minutes until the parameters stabilized.

In all of the wells where low-flow purging was conducted, the parameters were considered to be stable when three consecutive readings were within the following guidelines: pH +/- 0.2 pH units, conductivity +/- 3% of reading, ORP +/- 20 millivolts (mV), DO +/- 0.2 milligrams per liter (mg/L), turbidity +/- 1.0 nephelometric turbidity units (NTU) (Attachment A).

After monitoring the field parameters, the flow through cell was detached from the pump and tubing assembly. Groundwater samples were collected directly from the pump tubing.

2.2 MW-6 THROUGH MW-8

Because of slow recharge rates at MW-6 through MW-8, low-flow purging methods could not be used. Instead, the monitoring wells were purged dry. At MW-6, MW-7, and MW-8, approximately 30, 32, and 3 gallons were removed from each well, respectively. After the wells were purged dry, the recharging water levels were monitored until sufficient water was present to collect the groundwater samples. Once a sufficient water column was present, the pump was restarted and operated for approximately one minute to flush out any stagnant water remaining in the pump and tubing assembly. The flow-rate during sample collection at MW-6 through MW-8 was approximately 300 to 500 mL/min.

2.3 SURFACE WATER SAMPLE

The sampling location along the very small stream was moved downstream from the previous location to evaluate whether or not the contaminants present at MW-9 were affecting surface water quality within the Alameda Creek floodplain. The new sampling point is located at the

base of the alluvial terrace within the Alameda Creek floodplain and is shown on Figure 2. The former sampling point is also provided on Figure 2 for reference.

To the west, beyond the new sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses. The stream does not reach the eastern channel of Alameda Creek, which has been noted as dry during winter Site visits. Pictures of the new sampling location and the surrounding floodplain are included as Attachment B. The sampling location is also shown on a detailed topographic contour map provided as Figure 5, as requested by the ACEH staff in their January 17, 2007 letter to Chevron. The ground surface elevation at the sampling point is approximately 305 msl.

3.0 ANALYTICAL PROGRAM

The groundwater samples from each well and a duplicate sample from MW-7 were collected in laboratory provided containers and placed on ice in a cooler immediately after collection. Each sample cooler included a trip blank and was submitted to Lancaster Analytical Laboratory in Lancaster, Pennsylvania, a California Certified Laboratory, under URS chain-of-custody procedures. The samples were analyzed on a standard turn around time.

As discussed in URS' *February 2006 Groundwater Monitoring Report*, groundwater and surface water samples collected during quarterly sampling activities are now analyzed for the following parameters:

- Benzene, toluene, ethylbenzene, xylenes (BTEX) by USEPA Method 8260B
- Total petroleum hydrocarbons – gasoline range organics (TPH-GRO) by N. CA LUFT GRO

4.0 GROUNDWATER ANALYTICAL RESULTS

A summary of the analytical results for the gasoline compounds is presented in Table 3 and the complete laboratory analytical results and chain of custodies are included as Attachment C.

4.1 UNCONFINED WATER-BEARING ZONE WELLS

The unconfined water bearing zone wells include nursery unconfined water-bearing zone wells (MW-1 through MW-4 and MW-9) and the Calaveras Road shallow unconfined water-bearing zone well (MW-8). The first quarter groundwater sample results are as follows:

- The MW-1 sample contained TPH-GRO at 18,000 micrograms per liter (µg/L), benzene at 4 µg/L, toluene at 7 µg/L, ethylbenzene at 8 µg/L, and xylenes at 1,600 µg/L.

- The MW-2 sample concentrations were below laboratory reporting limits for of all constituents.
- The MW-3 sample concentrations were below laboratory reporting limits for of all constituents.
- The MW-4 sample concentrations were below laboratory reporting limits for of all constituents.
- The MW-8 sample contained TPH-GRO at 2,000 µg/L, benzene at 180 µg/L, toluene at 57 µg/L, ethylbenzene at 170 µg/L, and xylenes at 74 µg/L.
- MW-9 contained measurable free-product during first quarter 2007 groundwater monitoring activities and was not sampled.

4.2 CONFINED WATER-BEARING ZONE WELLS

The confined water-bearing zone wells include MW-5 through MW-7 located along Calaveras Road. The first quarter groundwater sample results are as follows:

- The MW-5 sample concentrations were below laboratory reporting limits for of all constituents.
- The MW-6 sample concentrations were below laboratory reporting limits for of all constituents.
- The MW-7 sample and duplicate contained benzene at 0.7 and 0.6 µg/L, toluene at 1 and 0.9 µg/L, ethylbenzene at 0.9 and 0.6 µg/L, and xylenes at 3 and 2 µg/L, respectively.

TPH-GRO concentrations were below the laboratory reporting limits for all of the confined water-bearing zone wells.

4.3 SURFACE WATER SAMPLE

The surface water sampling location is shown on Figure 2. Surface water concentrations from the new sampling location are below laboratory reporting limits for all gasoline compounds.

5.0 SUMMARY OF QA/QC REVIEW PARAMETERS

The certified analytical reports from the analytical laboratory were subjected to a quality assurance/quality control (QA/QC) review and data validation by URS. Laboratory and field QC sample results were evaluated to assess the quality of the individual sample results and overall method performance. The data evaluation performed included review of:

- Blanks (laboratory method blanks and trip blanks)
- Spikes (laboratory control spikes, matrix control spikes, blank spikes and surrogate spikes)
- Duplicates (laboratory control spike duplicates, matrix control spike duplicates, blank spike duplicates and field duplicates)
- Sample integrity (chain-of-custody documentation, sample preservation, and holding time compliance)

All reported results for the laboratory method blanks were below their laboratory reporting limits, indicating no evidence of contamination from laboratory instrumentation. All reported results for the trip blanks were less than their laboratory reporting limit, indicating no evidence of contamination during shipping of the laboratory samples.

All reported laboratory control spike (LCS) sample recoveries, blank spike (BS) sample recoveries, matrix control spike (MS) sample recoveries, and surrogate spike recoveries were within laboratory QC limits or were outside of laboratory QC limits but did not require qualification.

The relative percent difference (RPD) was calculated for detected analytes in field sample MW-7 and duplicate field sample MW-X. The calculated RPDs exceeded 30% for ethylbenzene and xylene (total), and so the ethylbenzene and xylene results in MW-7 and MW-X were qualified with a J, indicating that the reported value is the approximate concentration of the analyte in the sample due to sample heterogeneity.

Chain-of-custody documentation was complete and consistent. Samples were preserved as required per method specifications. All samples were analyzed within the method-specified holding times.

The data quality evaluation indicated that no systematic problems were detected, and the overall data objectives for sample contamination, precision, accuracy, and sample integrity were met. These analytical data are of acceptable quality and may be used for their intended purposes.

6.0 FINDINGS

- Measurable free product has been observed in MW-9 since third quarter 2006 groundwater monitoring activities. Free-product was not detected at any of the other monitoring wells (MW-1 through MW-8) during first quarter 2007 monitoring activities.
- Due to seasonal precipitation, the water table elevation increased, hydraulically reconnecting MW-3 and MW-4 to the unconfined water-bearing zone.
- No gasoline compounds were detected in wells MW-2 through MW-6 and the surface water sample.

- The concentrations of gasoline compounds within MW-1 have shown a decreasing trend since the initiation of the groundwater monitoring program in February 2006: 68 percent decrease for TPH-GRO, 89 percent decrease for benzene, greater than 99 percent decrease for toluene and ethylbenzene, and 82 percent for xylenes.

7.0 RECOMMENDATIONS

- Because of the continued presence of free-product detected at MW-9, URS installed a sorbent boom on March 1, 2007 as an interim remedial measure. The purpose of installing the sorbent boom is to passively degrade free-product within the well and allow for future quarterly groundwater samples to be collected without the presence of product. A discussion evaluating the effectiveness of the sorbent boom will be provided in URS' second quarter 2007 groundwater monitoring report. The details of the sorbent boom are provided as Attachment D.
- Continue quarterly groundwater monitoring at all nine monitoring wells (MW-1 through MW-9).
- Due to the complex subsurface conditions at the Site, URS is currently conducting soil-gas screening using GORE™ modules to place future groundwater monitoring wells in the optimal locations to more fully characterize the extent of the groundwater plume. The results of the GORE™ survey will be included in URS' work plan for additional monitoring well installation to be submitted on June 10, 2007 as requested by the ACEH staff.

8.0 LIMITATIONS

No evaluation is thorough enough to preclude the possibility that materials that are currently considered hazardous or materials that may be considered hazardous in the future may be present at a site. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants presently considered nonhazardous may, in the future, fall under different regulatory standards and require remediation. Opinions and judgments expressed herein, which are based on understanding and interpretation of current regulatory standards, should not be construed as legal opinions. This document and the information contained herein have been prepared solely for CPL's use, and reliance on this report by third parties will be at such party's sole risk.

Sincerely,

URS CORPORATION

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Chevron

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May 7, 2007

Mr. Jerry Wickham
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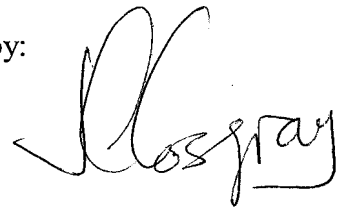
1131 Harbor Bay Parkway
Alameda, California 94502

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and/or recommendations contained in URS' report titled "**SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA - First Quarter 2007 Groundwater Monitoring Report**" are true and correct to the best of my knowledge at the present time.

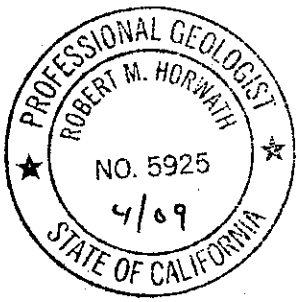
Submitted by:



Jeffrey Cosgray

This report ("**First Quarter 2007 Groundwater Monitoring Report**") was prepared under my direct supervision. The information presented in this report is based on our review of available data obtained during our additional monitoring well installation and quarterly sampling activities and our previous subsurface investigation efforts. To the best of our knowledge, we have incorporated into our recommendations all relevant data pertaining to the Chevron Pipeline Release site in Sunol, California.

The fourth quarter groundwater monitoring report discussed herein was developed in accordance with the standard of care used to develop this type of report. The assumptions that were made and the recommendations for continued field activities were based on our professional experience and protocols reported in the literature for similar investigations.



URS Corporation
Approved by:

Robert Horwath, P.G.

TABLE 1
Monitoring Well Groundwater Levels
First Quarter 2007 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)	Date	Depth to Groundwater (feet TOC-N)	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-1	29.3-39.3	2/21/2006	36.34	--	--
		6/7/2006	34.28	--	--
		8/22/2006	37.11	37.08	0.03
		11/14/2006	37.05	--	--
		2/20/2007	36.14	--	--
MW-2	23.3-38.3	2/21/2006	32.19	--	--
		6/7/2006	30.23	--	--
		8/22/2006	33.11	--	--
		11/14/2006	33.01	--	--
		2/20/2007	31.93	--	--
MW-3	21.3-36.3	2/21/2006	31.97	--	--
		6/7/2006	30.91	--	--
		8/22/2006	34.66	--	--
		11/14/2006	34.71	--	--
		2/20/2007	31.66	--	--
MW-4	30.7-40.7	2/21/2006	36.72	--	--
		6/7/2006	35.76	--	--
		8/22/2006	38.79	--	--
		11/14/2006	38.84	--	--
		2/20/2007	36.54	--	--
MW-5	39.5-49.5	2/21/2006	11.48	--	--
		6/7/2006	10.61	--	--
		8/22/2006	11.93	--	--
		11/14/2006	11.37	--	--
		2/20/2007	11.41	--	--
MW-6	34.7-49.7	2/21/2006	18.02	--	--
		6/7/2006	16.83	--	--
		8/22/2006	18.66	--	--
		11/14/2006	17.37	--	--
		2/20/2007	17.51	--	--
MW-7	34.7-49.7	2/21/2006	15.43	--	--
		6/7/2006	16.68	--	--
		8/22/2006	16.77	--	--
		11/14/2006	16.99	--	--
		2/20/2007	18.34	--	--
MW-8	14.5-24.5	8/22/2006	18.71	--	--
		11/14/2006	18.73	--	--
		2/20/2007	19.23	--	--
MW-9	36.0-46.0	8/22/2006	42.59	42.55	0.04
		11/14/2006	42.62	42.54	0.08
		2/20/2007	41.91	41.86	0.05

Notes:
Groundwater and product levels measured from top of casing - north (TOC-N).
Screen intervals measured from feet below ground surface (feet bgs)

TABLE 2
Monitoring Well Groundwater Elevations
First Quarter 2007 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Date Measured	Groundwater Elevation (feet msl)	Product Elevation (feet msl)	Product Thickness (feet)
MW-1	10/20/2005	328.49	328.04	2/21/2006	291.70	--	--
				6/7/2006	293.76	--	--
				8/22/2006	290.93	290.96	0.03
				11/14/2006	290.99	--	--
				2/20/2007	291.90	--	--
MW-2	10/21/2005	324.85	324.15	2/21/2006	291.96	--	--
				6/7/2006	293.92	--	--
				8/22/2006	291.04	--	--
				11/14/2006	291.14	--	--
				2/20/2007	292.22	--	--
MW-3	10/21/2005	326.05	325.65	2/21/2006	293.68	--	--
				6/7/2006	294.74	--	--
				8/22/2006	290.99	--	--
				11/14/2006	290.94	--	--
				2/20/2007	293.99	--	--
MW-4	1/31/2006	329.97	329.67	2/21/2006	292.95	--	--
				6/7/2006	293.91	--	--
				8/22/2006	290.88	--	--
				11/14/2006	290.83	--	--
				2/20/2007	293.13	--	--
MW-5	1/27/2006	335.14	334.81	2/21/2006	323.33	--	--
				6/7/2006	324.20	--	--
				8/22/2006	322.88	--	--
				11/14/2006	323.44	--	--
				2/20/2007	323.40	--	--
MW-6	1/27/2006	332.61	332.38	2/21/2006	314.36	--	--
				6/7/2006	315.55	--	--
				8/22/2006	313.72	--	--
				11/14/2006	315.01	--	--
				2/20/2007	314.87	--	--
MW-7	1/27/2006	336.46	336.22	2/21/2006	320.79	--	--
				6/7/2006	319.54	--	--
				8/22/2006	319.45	--	--
				11/14/2006	319.23	--	--
				2/20/2007	317.88	--	--
MW-8	8/15/2006	335.23	333.93	8/22/2006	315.22	--	--
				11/14/2006	315.20	--	--
				2/20/2007	314.70	--	--
MW-9	8/16/2006	333.49	333.07	8/22/2006	290.48	290.52	0.04
				11/14/2006	290.45	290.53	0.08
				2/20/2007	291.16	291.21	0.05

Notes:
All elevations displayed in feet above average mean sea level (msl).
Groundwater and product elevations calculated from depths as measured from top of casing - north.
MW-1 through MW-3 surveyed on October 31, 2005.
MW-4 through MW-7 surveyed on February 14, 2006.

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
First Quarter 2007 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
MW-1	2/22/2006	**57,000**	**38**	**2,700**	**3,000**	**8,700**
	6/8/2006	**37,000**	**10**	**330**	**120**	**8,200**
	Q3 2006[2)]	**NS**	**NS**	**NS**	**NS**	**NS**
	11/15/2006	**38,000**	**14**	**110**	**38**	**5,900**
	2/21/2007	**18,000**	**4**	**7**	**8**	**1,600**
MW-2	2/21/2006[1)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	<50	0.5	<0.5	<0.5	<0.5
	11/14/2006	<50	**0.7**	<0.5	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-3	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**170**	<0.5	<0.5	<0.5	<0.5
	11/14/2006	**86**	<0.5	**1**	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-4	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**70**	**0.6**	<0.5	<0.5	**1**
	11/15/2006	<50	<0.5	<0.5	<0.5	0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-5	2/22/2006	<50	<0.5	**0.6**	<0.5	**1**
	6/8/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/24/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/16/2006	<50	<0.5	**2**	<0.5	<0.5
	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-6	2/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/16/2006	<50	<0.5	<0.5	<0.5	<0.5
	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-7	2/22/2006	<50	**0.7**	**2**	**0.9**	**5**
	6/8/2006	<50	**0.7**	<0.5	**1**	**4**
	8/22/2006[1)]	<50 / <50	**2 / 2**	<0.5 / <0.5	**1 / 0.6 J**	**3 / 2 J**
	11/16/2006	<50	**0.7**	**2**	**0.6**	**2**
	2/20/2007[1)]	<50 / <50	**0.7 / 0.6**	**1 / 0.9**	**0.9 / 0.6 J**	**3 / 2 J**
MW-8	8/24/2006	**18,000**	**190**	**2,600**	**590**	**2,800**
	11/16/2006	**990**	**76**	**80**	**69**	**190**
	2/20/2007	**2,000**	**180**	**57**	**170**	**74**
MW-9	Q3 2006[2)]	**NS**	**NS**	**NS**	**NS**	**NS**
	11/15/2006	**74,000**	**480**	**12,000**	**2,200**	**17,000**
	Q1 2007[2)]	**NS**	**NS**	**NS**	**NS**	**NS**
SW-Creek	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
Stream	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5

Notes:
Bold values exceed laboratory reporting limits.
J qualifier - The reported value is the approximate concentration of the analyte in the sample due to sample heterogeneity.
µg/L - micrograms per liter
NS - Not Sampled
TPH-GRO - Total Petroleum Hydrocarbons as Gasoline Range Organics

1) Both sample and duplicate concentrations from well location are displayed.
2) Sample not collected during quarterly monitoring due to the presence of measurable free product.

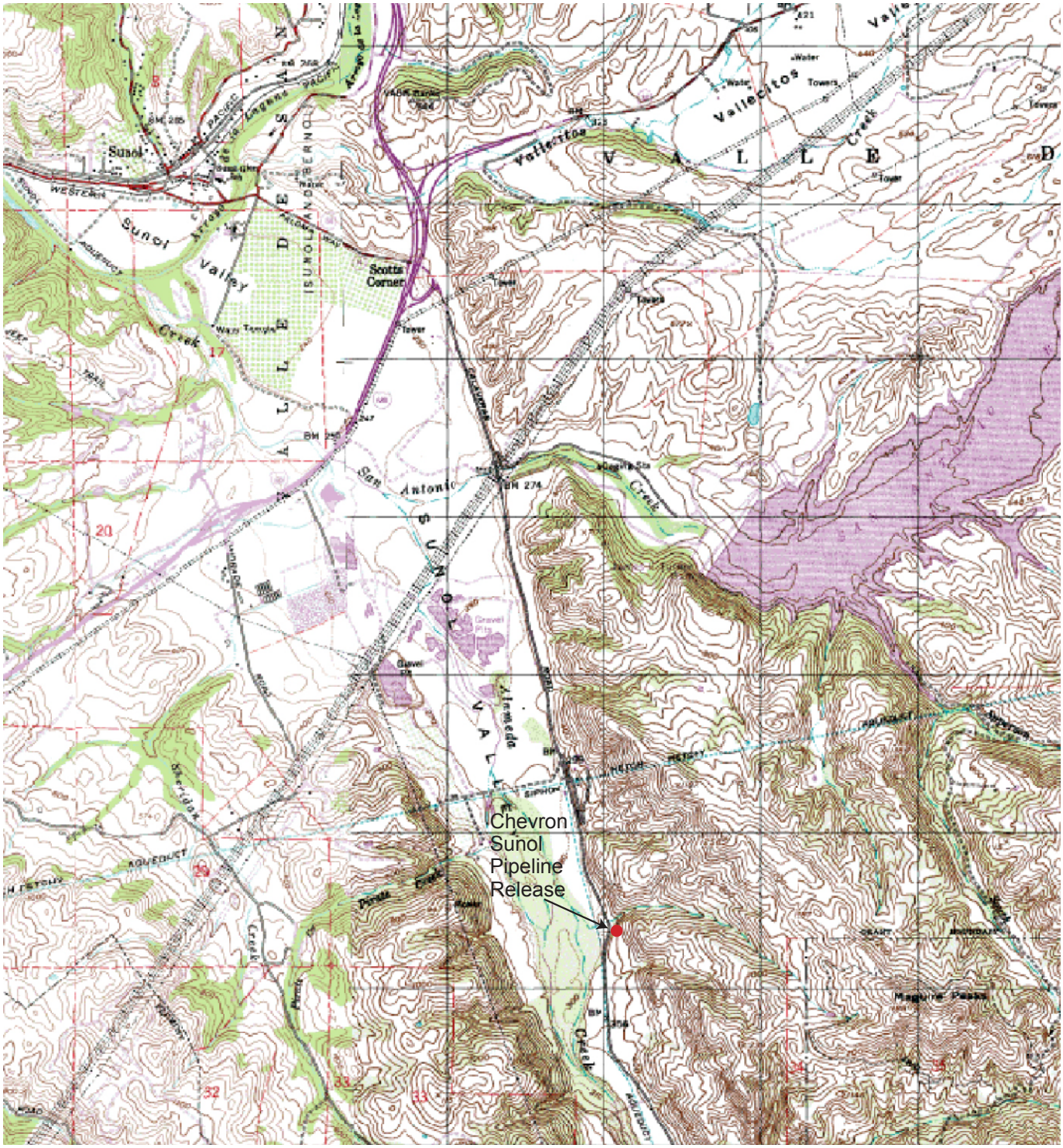


Image obtained from topozone.com

N

MAP REFERENCE:

PORTION OF U.S.G.S. QUANDRANGLE MAP
7 1/2 MINUTE SERIES (TOPOGRAPHIC)
LA COSTA VALLEY QUADRANGLE

URS	Chevron Pipeline Company Project No. 26815217	SITE VICINITY MAP CHEVRON SUNOL PIPELINE SUNOL, CALIFORNIA	Figure 1

NORTH

0 50 100

SCALE IN FEET

LEGEND:

- SURFACE WATER SAMPLE
- SOIL BORING
- MONITORING WELL
- SVE WELL
- SHELF
- FENCE
- PIPELINE
- HILL SLOPE 80-90% GRADE

SVE SYSTEM

SB-27

SW-CREEK
(Former Surface Water Sampling Location)

SB-26

STREAM
(New Surface Water Sampling Location)

VERY SMALL STREAM

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

PROPERTY LINE/FENCE

CALAVERAS ROAD

SB-14

SB-13R

SB-13

SB-15

SB-16

HILL SLOPE

SB-12

SVE-1D

SB-11

SVE-2S

SB-24

RELEASE LOCATION

SB-22

SVE-3S

SB-23

SVE-4D

SB-20

SVE-5

SVE-6

SB-21

SB-25

HILL SLOPE AND DENSE VEGETATION

SVE-9

SVE-7

SVE-8

SB-19

SB-18

SB-17

SB-10

SB-1

MW-9

MW-4

SB-2

HSA-2

SB-9

MW-7

MW-8

SB-3

MW-5

SB-8

MW-3

MW-1

HSA-1

AR-2

MW-2

SB-4

SB-7

MW-6

SB-5

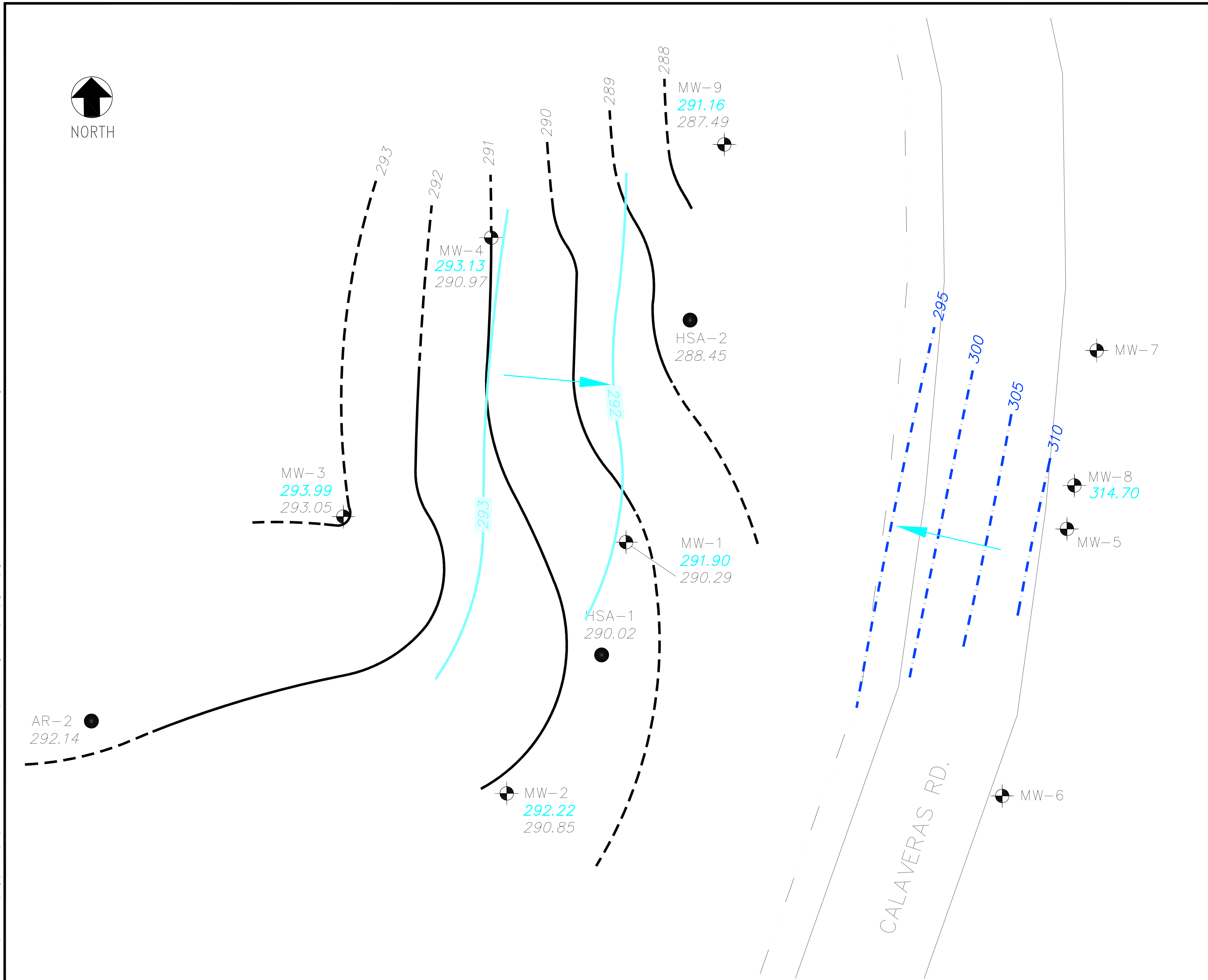
SB-6

HILL SLOPE

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	SVE AND GROUNDWATER MONITORING WELL LOCATIONS CHEVRON SUNOL PIPELINE

Figure 2

Apr 19, 2007 - 1:17pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Additional Well Installation 1-06\Add. Investigation Report\Figures\Figure 2_SVE-GW Locations.dwg



LEGEND:

MW-3	MONITORING WELL	
293.99	GROUNDWATER ELEVATION	
293.05	BEDROCK CONTACT ELEVATION	
HSA-2	SOIL BORING	
288.45	BEDROCK CONTACT ELEVATION	
293	INFERRED SILTSTONE BEDROCK ELEVATION CONTOUR	
292	CALCULATED SILTSTONE BEDROCK ELEVATION CONTOUR	
305	INFERRED GROUNDWATER ELEVATION CONTOUR (5 FOOT INTERVALS)	
290.5	GROUNDWATER ELEVATION CONTOUR (1 FOOT INTERVALS)	
	INFERRED GROUNDWATER FLOW DIRECTION UNCONFINED ZONE	

NOTES:

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW-1 THROUGH MW-4 AND MW-8 AND MW-9, AS MEASURED ON FEBRUARY 20, 2007.
3. BEDROCK ELEVATION DATA OBTAINED FROM THE BORING LOGS OF MW-1 THROUGH MW-4, MW-9, HSA-1, HSA-2, AND AR-2.
4. THE BEDROCK CONTOURS SHOWN REPRESENT THE GRAVEL CONTACT WITH THE WEATHERED SILTSTONE/CLAYSTONE BEDROCK UNIT (POSSIBLY CRETACEOUS-AGE CLAY SHALE OF THE PANOCHE FORMATION).
5. CALCULATED HYDRAULIC GRADIENT EASTERLY FLOW DIRECTION (NURSERY UNCONFINED WATER-BEARING ZONE): DH/DL = 0.043 FT/FT.

20' 0 20'

SCALE 1"= 20'

URS	CHEVRON PIPELINE COMPANY	BEDROCK AND UNCONFINED WATER-BEARING ZONE CONTOUR MAP CHEVRON SUNOL PIPELINE	Figure 3
	Project No. 26815217		

Apr 19, 2007 - 1:12pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Additional Well Installation 1-06\Add. Investigation Report\Figures\Figure 3_Bedrock-Unconfined WBZ Contours.dwg

NORTH

MW–9

MW–4

MW–7
317.88

MW–8

MW–3

MW–5
323.40

MW–1

MW–2

MW–6
314.87

CALAVERAS RD.

LEGEND:

MW–3
293.68
MONITORING WELL WITH GROUNDWATER ELEVATION

NOTES:

1.) ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).

2.) GROUNDWATER ELEVATIONS FOR MW–5 THROUGH MW–7 AS MEASURED ON FEBRUARY 20, 2007.

20' 0 20'
SCALE 1"= 20'

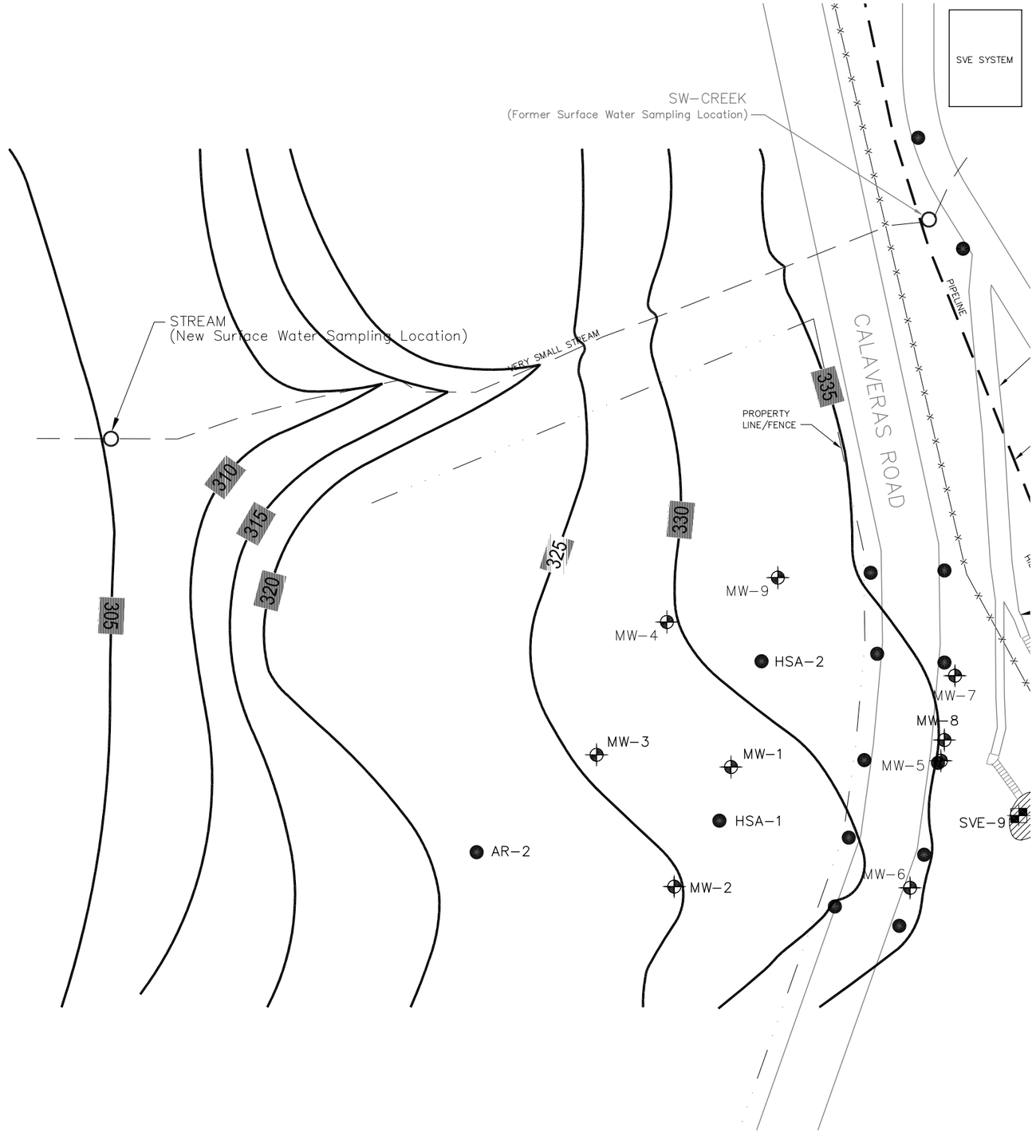
URS	CHEVRON PIPELINE COMPANY Project No. 26815217	POTENTIOMETRIC SURFACE ELEVATIONS CONFINED SANDSTONE WATER–BEARING ZONE	Figure 4

Apr 19, 2007 – 1:15pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Additional Well Installation 1–06\Add. Investigation Report\Figures\Figure 4_Potentiometric Surface Elevations.dwg

NORTH

0 50 100

SCALE IN FEET



LEGEND:

- SURFACE WATER SAMPLE
- SOIL BORING
- MONITORING WELL
- SVE WELL
- SHELF
- FENCE
- PIPELINE
- STREAM
- 320 GROUND SURFACE CONTOUR

NOTES:

1) ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (MSL).
2) SURFACE CONTOURS BASED ON SURVEYED ELEVATION DATA.

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	TOPOGRAPHIC CONTOUR MAP CHEVRON SUNOL PIPELINE	Figure 5

Attachment A
Low Flow Sampling Forms

URS

Troll 9000 | Low-Flow System
02/21/07 | ISI Low-Flow Log

Project Information:

Operator Name	Greg White
Company Name	URS Corporation
Project Name	Chevron Sunol Pipeline
Site Name	Calaveras Rd Sunol, CA

Pump Information:

Pump Model/Type	S.S. Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	43 [ft]
Pump placement from TOC	38.5 [ft]

Well Information:

Well Id	MW-1
Well diameter	4 [in]
Well total depth	40 [ft bgs]
Depth to top of screen	29.3 [ft bgs]
Screen length	10 [ft]
Depth to Water	36.14 [ft TOC-N]

Pumping information:

Final pumping rate	250 [mL/min]
Flowcell volume	1075.98 [mL]
Calculated Sample Rate	32280 [sec]
Sample rate	180 [sec]
Stabilized drawdown	0.00 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-1 +/-3 %	+/-1	+/-0.2	+/-20
Last 5 Readings	11:10:19	63.12	6.65	1133.34	87.78	0.12	-157.86
	11:13:26	63.08	6.65	1109.97	87.03	0.10	-142.21
	11:16:33	63.08	6.65	1103.86	86.13	0.10	-128.23
	11:19:39	63.07	6.64	1092.35	86.21	0.09	-115.15
	11:22:45	63.09	6.64	1078.77	84.73	0.08	-103.82
Variance in last 3 readings	11:16:33	0.00	0.00	-6.11	-0.90	0.00	13.98
	11:19:39	-0.01	-0.01	-11.51	0.08	-0.01	13.08
	11:22:45	0.02	0.00	-13.58	-1.48	-0.01	11.33

Notes:

Initial water level: 36.14 ft TOC-N
Final water level: 36.14 ft TOC-N
Initial pumping rate: 600 mL/min
Final pumping rate: 250 mL/min
Total volume purged: 4.5 gallons

URS

Troll 9000 | Low-Flow System
02/21/07 | ISI Low-Flow Log

Project Information:

Operator Name	Greg White
Company Name	URS Corporation
Project Name	Chevron Sunol Pipeline
Site Name	Calaveras Rd Sunol, CA

Pump Information:

Pump Model/Type	S.S. Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	44 [ft]
Pump placement from TOC	35 [ft]

Well Information:

Well Id	MW-2
Well diameter	4 [in]
Well total depth	39 [ft bgs]
Depth to top of screen	23.3 [ft bgs]
Screen length	15 [ft]
Depth to Water	31.94 [ft TOC-N]

Pumping information:

Final pumping rate	300 [mL/min]
Flowcell volume	1098.28 [mL]
Calculated Sample Rate	32949 [sec]
Sample rate	180 [sec]
Stabilized drawdown	0.00 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-1 +/-3 %	+/-1	+/-0.2	+/-20
Last 5 Readings	9:14:18	61.67	6.71	1060.56	4.72	5.18	100.62
	9:17:24	62.01	6.69	1056.50	5.15	4.87	99.81
	9:20:32	62.11	6.68	1046.05	5.89	4.65	100.21
	9:23:39	62.10	6.67	1032.13	5.66	4.46	101.97
	9:26:46	61.97	6.67	1028.74	5.69	4.33	104.16
Variance in last 3 readings	9:20:32	0.10	-0.01	-10.45	0.74	-0.22	0.40
	9:23:39	-0.01	-0.01	-13.92	-0.23	-0.19	1.76
	9:26:46	-0.13	0.00	-3.39	0.03	-0.13	2.19

Notes:

Initial water level: 31.94 ft TOC-N
Final water level: 31.94 ft TOC-N
Initial pumping rate: 900 mL/min
Final pumping rate: 300 mL/min
Total volume purged: 4 gallons

URS

Troll 9000 | Low-Flow System
02/21/07 | ISI Low-Flow Log

Project Information:

Operator Name	Greg White
Company Name	URS Corporation
Project Name	Chevron Sunol Pipeline
Site Name	Calaveras Rd Sunol, CA

Pump Information:

Pump Model/Type	S.S. Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	37 [ft]
Pump placement from TOC	32.8 [ft]

Well Information:

Well Id	MW-3
Well diameter	4 [in]
Well total depth	37 [ft bgs]
Depth to top of screen	21.3 [ft bgs]
Screen length	15 [ft]
Depth to Water	31.72 [ft TOC-N]

Pumping information:

Final pumping rate	470 [mL/min]
Flowcell volume	942.17 [mL]
Calculated Sample Rate	28266 [sec]
Sample rate	180 [sec]
Stabilized drawdown	0.00 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-1 +/-3 %	+/-1	+/-0.2	+/-20
Last 5 Readings	10:13:43	60.49	6.66	896.84	5.90	2.59	-46.24
	10:16:49	60.65	6.66	890.39	5.67	2.65	-41.73
	10:19:57	60.75	6.65	885.30	6.05	2.68	-34.34
	10:23:03	60.65	6.64	877.09	7.14	2.71	-27.04
	10:26:10	60.71	6.64	879.14	6.10	2.72	-22.84
Variance in last 3 readings	10:19:57	0.10	-0.01	-5.09	0.38	0.03	7.39
	10:23:03	-0.10	-0.01	-8.21	1.09	0.03	7.30
	10:26:10	0.06	0.00	2.05	-1.04	0.01	4.20

Notes:

Initial water level: 31.72 ft TOC-N
Final water level: 31.72 ft TOC-N
Initial pumping rate: 470 mL/min
Final pumping rate: 470 mL/min
Total volume purged: 3.5 gallons

URS

Troll 9000 | Low-Flow System
02/21/07 | ISI Low-Flow Log

Project Information:

Operator Name	Greg White
Company Name	URS Corporation
Project Name	Chevron Sunol Pipeline
Site Name	Calaveras Rd Sunol, CA

Pump Information:

Pump Model/Type	S.S. Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	44 [ft]
Pump placement from TOC	38.7 [ft]

Well Information:

Well Id	MW-4
Well diameter	4 [in]
Well total depth	41 [ft bgs]
Depth to top of screen	30.7 [ft bgs]
Screen length	10 [ft]
Depth to Water	36.57 [ft TOC-N]

Pumping information:

Final pumping rate	250 [mL/min]
Flowcell volume	1098.28 [mL]
Calculated Sample Rate	32949 [sec]
Sample rate	180 [sec]
Stabilized drawdown	0.00 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-1 +/-3 %	+/-1	+/-0.2	+/-20
Last 5 Readings	11:58:59	61.38	6.64	976.51	5.25	0.41	27.14
	12:02:05	61.55	6.62	971.39	5.66	0.33	32.31
	12:05:12	61.94	6.60	972.20	6.57	0.32	36.38
	12:08:18	62.28	6.60	968.37	6.65	0.32	38.90
	12:11:25	62.49	6.60	963.79	5.86	0.35	40.84
Variance in last 3 readings	12:05:12	0.39	-0.02	0.81	0.91	-0.01	4.07
	12:08:18	0.34	0.00	-3.83	0.08	0.00	2.52
	12:11:25	0.21	0.00	-4.58	-0.79	0.03	1.94

Notes:

Initial water level: 36.57 ft TOC-N
Final water level: 36.57 ft TOC-N
Initial pumping rate: 440 mL/min
Final pumping rate: 250 mL/min
Total volume purged: 1.5 gallons

URS

Troll 9000 | Low-Flow System
02/20/07 | ISI Low-Flow Log

Project Information:

Operator Name	Greg White
Company Name	URS Corporation
Project Name	Chevron Sunol Pipeline
Site Name	Calaveras Rd Sunol, CA

Pump Information:

Pump Model/Type	S.S. Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	48 [ft]
Pump placement from TOC	5 [ft]

Well Information:

Well Id	MW-5
Well diameter	4 [in]
Well total depth	49.8 [ft bgs]
Depth to top of screen	39.5 [ft bgs]
Screen length	10 [ft]
Depth to Water	11.41 [ft TOC-N]

Pumping information:

Final pumping rate	300 [mL/min]
Flowcell volume	1159.5 [mL]
Calculated Sample Rate	34785 [sec]
Sample rate	180 [sec]
Stabilized drawdown	2.44 [ft]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-1 +/-3 %	+/-1	+/-0.2	+/-20
Last 5 Readings	12:34:57	64.47	7.25	746.07	2.43	5.19	-84.77
	12:38:04	64.37	7.26	744.51	1.41	4.68	-87.76
	12:41:10	64.50	7.26	746.43	1.83	4.28	-89.04
	12:44:17	64.40	7.26	746.67	1.74	3.94	-90.84
	12:47:23	64.46	7.26	749.70	0.65	3.68	-91.01
Variance in last 3 readings	12:41:10	0.13	0.00	1.92	0.42	-0.40	-1.28
	12:44:17	-0.10	0.00	0.24	-0.09	-0.34	-1.80
	12:47:23	0.06	0.00	3.03	-1.09	-0.26	-0.17

Notes:

Initial water level: 11.41 ft TOC-N
Final water level: 13.85 ft TOC-N
Initial pumping rate: 600 mL/min
Final pumping rate: 300 mL/min
Total volume purged: 8 gallons

Attachment B
Site Photographs

URS

PHOTOGRAPHIC LOG

Chevron Pipe Line Company	Chevron Sunol Pipeline Sunol, California	URS Project No. 26815217

Photo No. **1** | **Date:** 3/30/07

Direction Photo Taken:

Northeast

Description:

New surface water sampling location along the very small stream at the base of the terrace.

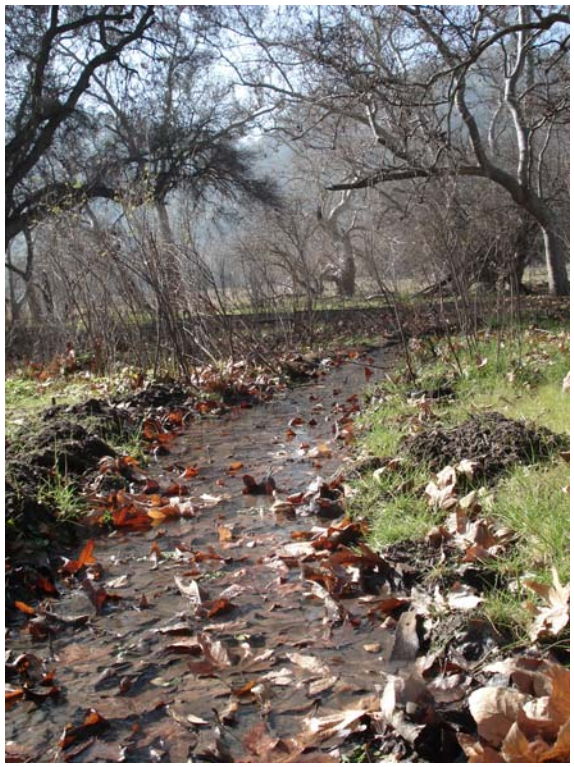
Photo No. **2** | **Date:** 3/30/07

Direction Photo Taken:

Southwest

Description:

Very small stream flowing into the Alameda Creek Floodplain.



URS

PHOTOGRAPHIC LOG

Chevron Pipe Line Company	Chevron Sunol Pipeline Sunol, California	URS Project No. 26815217

Photo No. 3	Date: 3/30/07

Direction Photo Taken:

East towards Valley Crest Tree Nursery

Description:

Very small stream terminating in the Alameda Creek Floodplain.

Photo No. 4	Date: 3/30/07

Direction Photo Taken:

North

Description:

Dry eastern channel of Alameda Creek.

Attachment C
Laboratory Analytical Results

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

713-432-3335

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1026523. Samples arrived at the laboratory on Thursday, February 22, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
MW-6	Grab	Water	4988203
MW-5	Grab	Water	4988204
MW-8	Grab	Water	4988205
MW-7	Grab	Water	4988206
MW-X	Grab	Water	4988207
STREAM	Grab	Water	4988208
Trip Blank-2/20/07	NA	Water	4988209
MW-2	Grab	Water	4988210
MW-3	Grab	Water	4988211
MW-1	Grab	Water	4988212
MW-4	Grab	Water	4988213
Trip Blank-2/21/07	NA	Water	4988214

ELECTRONIC COPY TO	URS	Attn: Angela Liang
ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: April Giangerelli
ELECTRONIC COPY TO	URS	Attn: Greg White
ELECTRONIC	URS	Attn: Joe Petsche

Lancaster Laboratories

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Analysis Report

COPY TO

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Robin C. Runkle
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4988203

MW-6 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-6**
Collected:02/20/2007 11:40 by GW

Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 22:55	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/01/2007 16:12	Dawn M Harle	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 22:55	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/01/2007 16:12	Dawn M Harle	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4988204

MW-5 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-5**
Collected:02/20/2007 12:50 by GW

Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 23:06	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 03:27	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 23:06	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 03:27	Michael A Ziegler	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 4988205

MW-8 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-8**
Collected:02/20/2007 14:00 by GW Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	2,000.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	180.	3.	ug/l	5
05407	Toluene	108-88-3	57.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	170.	3.	ug/l	5
06310	Xylene (Total)	1330-20-7	74.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 23:17	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 03:50	Michael A Ziegler	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 04:13	Michael A Ziegler	5
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 23:17	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 03:50	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/03/2007 04:13	Michael A Ziegler	5

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Analysis Report

Lancaster Laboratories Sample No. WW 4988206

MW-7 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-7**
Collected:02/20/2007 15:25 by GW Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	0.7	0.5	ug/l	1
05407	Toluene	108-88-3	1.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	0.9	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	3.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 23:28	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 04:36	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 23:28	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 04:36	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988207

MW-X **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-X**
Collected:02/20/2007 by GW

Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL-X

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	0.6	0.5	ug/l	1
05407	Toluene	108-88-3	0.9	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	0.6	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	2.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 23:39	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 04:59	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 23:39	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 04:59	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988208

STREAM **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 STREAM**
Collected:02/20/2007 16:20 by GW Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNLST

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/23/2007 23:49	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 05:22	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/23/2007 23:49	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 05:22	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988209

Trip Blank-2/20/07 NA Water
NA URSO
Sunol Pipeline SL0600100443 Trip Blank
Collected:02/20/2007 Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNLT1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 05:45	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 05:45	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988210

MW-2 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-2**
Collected:02/21/2007 09:20 by GW

Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/24/2007 00:00	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 06:08	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/24/2007 00:00	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 06:08	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988211

MW-3 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-3**
Collected:02/21/2007 10:30 by GW Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/24/2007 00:11	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 06:31	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/24/2007 00:11	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 06:31	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988212

MW-1 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-1**
Collected:02/21/2007 11:25 by GW

Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	18,000.	250.	ug/l	5
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	4.	0.5	ug/l	1
05407	Toluene	108-88-3	7.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	8.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	1,600.	5.	ug/l	10

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/24/2007 00:22	Steven A Skiles	5
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 06:54	Michael A Ziegler	1
06053	BTEX by 8260B	SW-846 8260B	1	03/03/2007 07:18	Michael A Ziegler	10
01146	GC VOA Water Prep	SW-846 5030B	1	02/24/2007 00:22	Steven A Skiles	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/03/2007 06:54	Michael A Ziegler	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	03/03/2007 07:18	Michael A Ziegler	10

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Analysis Report

Lancaster Laboratories Sample No. WW 4988213

MW-4 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-4**
Collected:02/21/2007 12:10 by GW Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNL04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	TPH GRO SW-846 8015B mod	1	02/24/2007 00:33	Steven A Skiles	1
06053	BTEX by 8260B	SW-846 8260B	1	03/04/2007 18:57	Dawn M Harle	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/24/2007 00:33	Steven A Skiles	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/04/2007 18:57	Dawn M Harle	1

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Analysis Report

Lancaster Laboratories Sample No. WW 4988214

Trip Blank-2/21/07 NA Water
NA URSO
Sunol Pipeline SL0600100443 Trip Blank
Collected:02/21/2007 Account Number: 11875

Submitted: 02/22/2007 09:55
Reported: 03/06/2007 at 16:15
Discard: 04/06/2007

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SNLT2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06053	BTEX by 8260B	SW-846 8260B	1	03/04/2007 19:20	Dawn M Harle	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	03/04/2007 19:20	Dawn M Harle	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1026523
Reported: 03/06/07 at 04:15 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 07054A20A	Sample number(s): 4988203,4988205,4988207,4988210,4988212							
TPH-GRO - Waters	N.D.	50.	ug/l	97	95	75-135	2	30
Batch number: 07054B20A	Sample number(s): 4988204,4988206,4988208,4988211,4988213							
TPH-GRO - Waters	N.D.	50.	ug/l	115	105	75-135	9	30
Batch number: D070602AA	Sample number(s): 4988203							
Benzene	N.D.	0.5	ug/l	95		78-119		
Toluene	N.D.	0.5	ug/l	99		85-115		
Ethylbenzene	N.D.	0.5	ug/l	98		82-119		
Xylene (Total)	N.D.	0.5	ug/l	102		83-113		
Batch number: D070614AA	Sample number(s): 4988204-4988212							
Benzene	N.D.	0.5	ug/l	96		78-119		
Toluene	N.D.	0.5	ug/l	103		85-115		
Ethylbenzene	N.D.	0.5	ug/l	95		82-119		
Xylene (Total)	N.D.	0.5	ug/l	105		83-113		
Batch number: D070631AA	Sample number(s): 4988213-4988214							
Benzene	N.D.	0.5	ug/l	101		78-119		
Toluene	N.D.	0.5	ug/l	107		85-115		
Ethylbenzene	N.D.	0.5	ug/l	101		82-119		
Xylene (Total)	N.D.	0.5	ug/l	107		83-113		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07054A20A	Sample number(s): 4988203,4988205,4988207,4988210,4988212 UNSPK: P988042								
TPH-GRO - Waters	59*		63-154						
Batch number: 07054B20A	Sample number(s): 4988204,4988206,4988208,4988211,4988213 UNSPK: P988043								
TPH-GRO - Waters	85		63-154						
Batch number: D070602AA	Sample number(s): 4988203 UNSPK: P986991								
Benzene	101	101	83-128	1	30				
Toluene	107	108	83-127	1	30				
Ethylbenzene	103	104	82-129	1	30				
Xylene (Total)	109	108	82-130	1	30				
Batch number: D070614AA	Sample number(s): 4988204-4988212 UNSPK: P989429								
Benzene	99	101	83-128	2	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1026523
Reported: 03/06/07 at 04:15 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Toluene	106	112	83-127	5	30				
Ethylbenzene	98	107	82-129	9	30				
Xylene (Total)	108	116	82-130	8	30				
Batch number: D070631AA	Sample number(s): 4988213-4988214 UNSPK: P988250								
Benzene	103	103	83-128	0	30				
Toluene	111	111	83-127	0	30				
Ethylbenzene	107	103	82-129	4	30				
Xylene (Total)	113	108	82-130	5	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO - Waters
Batch number: 07054A20A

	Trifluorotoluene-F
4988203	75
4988205	101
4988207	72
4988210	75
4988212	89
Blank	73
LCS	96
LCSD	95
MS	90
Limits:	63-135

Analysis Name: TPH-GRO - Waters
Batch number: 07054B20A

	Trifluorotoluene-F
4988204	75
4988206	87
4988208	88
4988211	86
4988213	86
Blank	86
LCS	122
LCSD	114
MS	113
Limits:	63-135

Analysis Name: BTEX by 8260B
Batch number: D070602AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1026523
Reported: 03/06/07 at 04:15 PM

Surrogate Quality Control

4988203	115	102	92	93
Blank	102	98	91	98
LCS	102	98	92	101
MS	103	94	91	102
MSD	105	99	91	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX by 8260B
Batch number: D070614AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4988204	109	105	93	90
4988205	101	93	96	98
4988206	106	103	93	93
4988207	107	104	92	92
4988208	104	103	92	91
4988209	107	103	93	91
4988210	109	102	93	91
4988211	110	105	92	91
4988212	99	93	96	104
Blank	106	101	93	92
LCS	103	97	92	103
MS	106	96	92	103
MSD	105	97	93	107
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX by 8260B
Batch number: D070631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4988213	108	96	94	91
4988214	108	98	93	89
Blank	106	96	96	91
LCS	105	97	93	104
MS	107	94	95	108
MSD	107	92	94	107
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

241575

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 498203-14 SCR#:

G#1026523

Facility #:
Site Address: Chevron Sunol Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS - Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201 Fax #: 510-874-3268
Sampler: Greg White & Joe Petroche
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX + MTBE 8260 ☐ 8021	TPH 8015 MOD GRO	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates ___	Lead 7420 ☐ 7421 ☐							
MW-6	W			2/20/07	1140		X		6	X	X										
MW-5	W				1250		X		6	X	X										
MW-8	W				1400		X		6	X	X										
MW-7	W				1525		X		6	X	X										
MW-X	W						X		5	X	X										
STREAM	W				1620		X		6	X	X										
Trip Blank - 2/19/07	W								1	X											

~~Comments / Remarks~~
Report BTEX only no MTBE for 8260

Send report to Joe Morgan, Angela Liang, Greg White, Joe Petroche of URS.
[Joe Petroche email: joe_petroche@urscorp.com]

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

Relinquished by:	Date	Time	Received by:	Date	Time
	2/21/07	1400			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Kathy Binkley	Date 2-22-07	Time 0955
Temperature Upon Receipt 3.5°+2.9°			Custody Seals Intact? Yes No	N/A	

3460 Rev. 10/04/01

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 498820314 SCR#: 241574

G# 1026523

Facility #:
Site Address: Chevron Seal Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS-Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201 Fax #: 510-874-3268
Sampler: Greg White & Joe Petsche
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX + MTBE 8260 ☒ 8021 ☐	TPH 8015 MOD GRO	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐
MW-2	W			2/21/07	0920		x		6	x	x				
MW-3	W				1030		x		6	x	x				
MW-1	W				1125		x		6	x	x				
MW-4	W				1210		x		6	x	x				
Trip Blank 2/21/07	W								1	x					

Comments / Remarks
Report BTEX only, no MTBE for 8260

Please send reports to Joe Morgan, Angela Liang, Greg White, Joe Petsche of URS

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

	Relinquished by:	Date	Time	Received by:	Date	Time
1		2/21/07	1400			
2						
3						
4	Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Kathy Binkley	2-22-07	0955

Temperature Upon Receipt 3.5+2.9 °C
Custody Seals Intact? Yes No N/A

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Attachment D
Universal Remediation Inc. PRP® Well Boom Information

WellBoom

PRP® WELL BOOM

FOR USE IN GROUNDWATER MONITORING WELLS*

ABSORBS OIL ON CONTACT!

UniRemInc's **WellBoom** is designed to facilitate testing in groundwater monitoring wells and is much less costly than traditional methods.

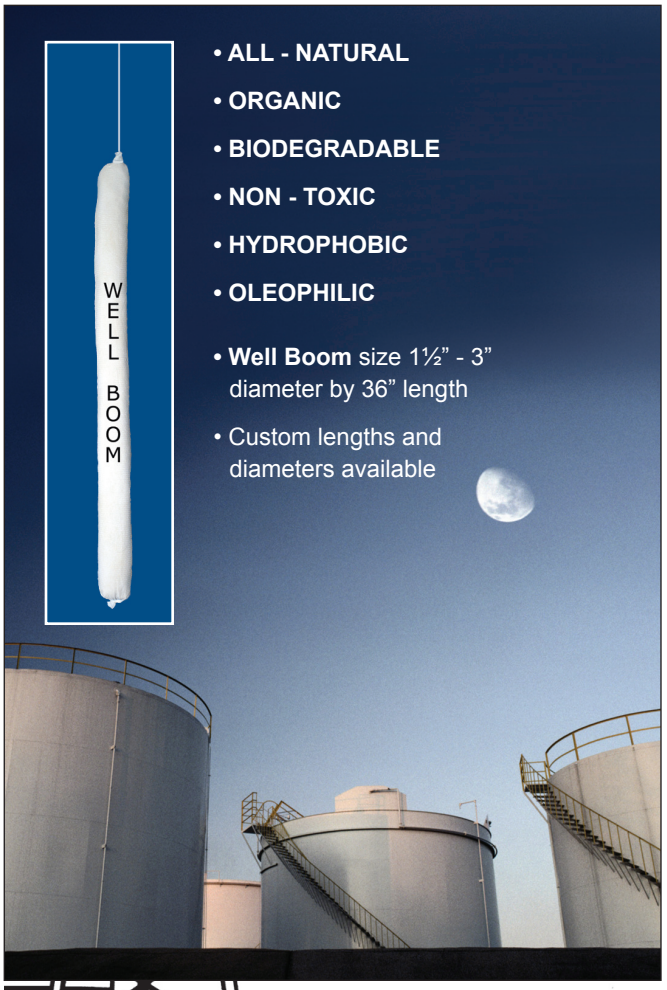
When installed, it submerges about 50% and adjusts to changing water levels. It remains bouyant until depleted.

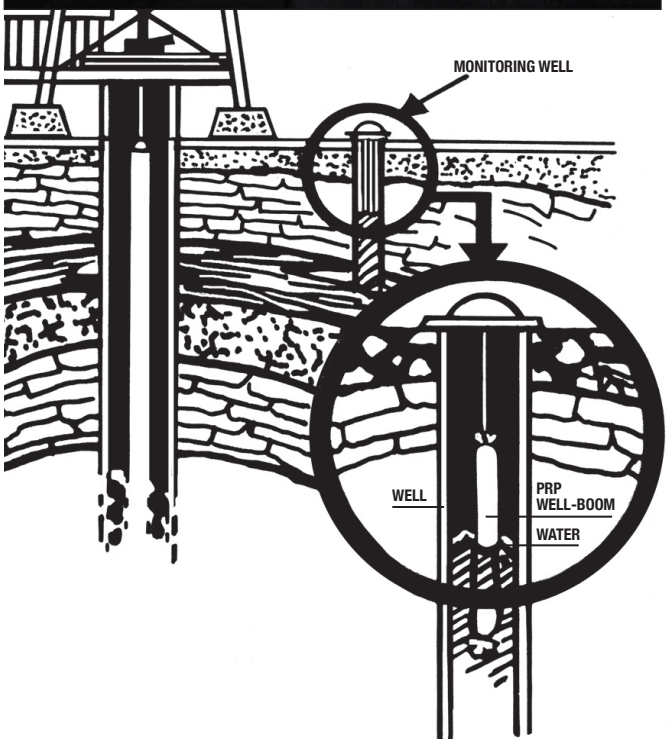
Not only will the **WellBoom** absorb "free product" on contact, it won't allow "leaching". It then promotes the rapid bio-degradation of the absorbed, groundwater-contaminating hydrocarbons!

The **WellBoom's** most optimal performance will occur when the water temperature is in a range of 35 - 95 degrees Farenheit.

Simple to install, simple to maintain with no costly disposal of messy, smelly, oil-soaked material required when **WellBoom** is done. Simply throw the boom casing in the trash!

* For use in groundwater monitoring wells (accomodates pipe sizes 2" to 8" in diameter).





UniRemInc
Universal Remediation, Inc.
1405 Parkway View Drive, Pittsburgh, PA 15205
sales@unireminc.com Phone: 412.788.2444 Fax: 412.788.0111 Toll-Free: 877.788.2444

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Universal Remediation, Inc.

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Toll Free: 877-788-2444

Our Products
Testimonials
Documentation
Case Studies
Photo Gallery

Home > **Products** > PRP Powder

PRP Powder

PRP Powder is especially well adapted for moderate to small spills in areas such as industrial plant settings (such as cooling ponds and tanks), shorelines - whether rocky or sandy - marinas, railroad tracks, oil wells/oil fields, maintenance facilities, truck roll-overs, and marshes/wetlands remediation where PRP can mitigate the collateral damage to the ecosystem caused by clean up crews.

Methods of applying PRP range from a simple hand sprinkle to portable, mechanized hydro seeders.

PRP consists of tiny spheres of treated wax, which contain nutrients. When a wax sphere comes in contact with spilled oil, it "binds" with the hydrocarbons. Nutrients in the sphere help microorganisms from the immediate environment flourish until they eat every droplet of oil. PRP will absorb and remediate, over time, more than 20 times its weight.

PRPs initial efficacy was quantified under simulated field conditions. This efficacy study was conducted by an independent environmental technology evaluation organization known as the National Environmental Technology Applications Corporation (NETAC). NETAC was key in the development of methods currently used by the U.S. EPA to evaluate biological methods that enhance oil spill degradation. There are five key findings of the study:

1. PRP Powder enhances the biodegrading of diesel fuel as compared to non-stimulated natural population of micro organisms.
2. PRP Powder treatment reduced the presence of aliphatic hydrocarbon compounds by 97% and aromatic compounds by 76%; reduction in the control product were 48% of aliphatic compounds and 5% of aromatic compounds.
3. PRP Powder interacts with diesel fuel oil to form a matrix, producing a mixture which is solid and relatively stable.
4. No enhancement in biodegradation was found in the control group of sorbents.
5. PRP Powder used in conjunction with an absorbent and a boom, absorbs petroleum products and enhances the biodegradation of diesel fuel oil by absorption into the sorbent boom.

PRP is now in use in multiple remediation scenarios across a wide spectrum of industries.

PRP® OIL BUSTER™

Hydrocarbon Spill Response Product ***100% Natural, Biodegradable and Nontoxic***

THE CONTAINMENT AND REMEDIATION ANSWER TO OIL SPILLS NATURALLY

Universal Remediation, Inc. manufactures and internationally markets unique oil biodegrading products and support services that provide our customers an easy, one-step method of cleaning up hydrocarbon spills, returning the site to its original state.

BIO boom®

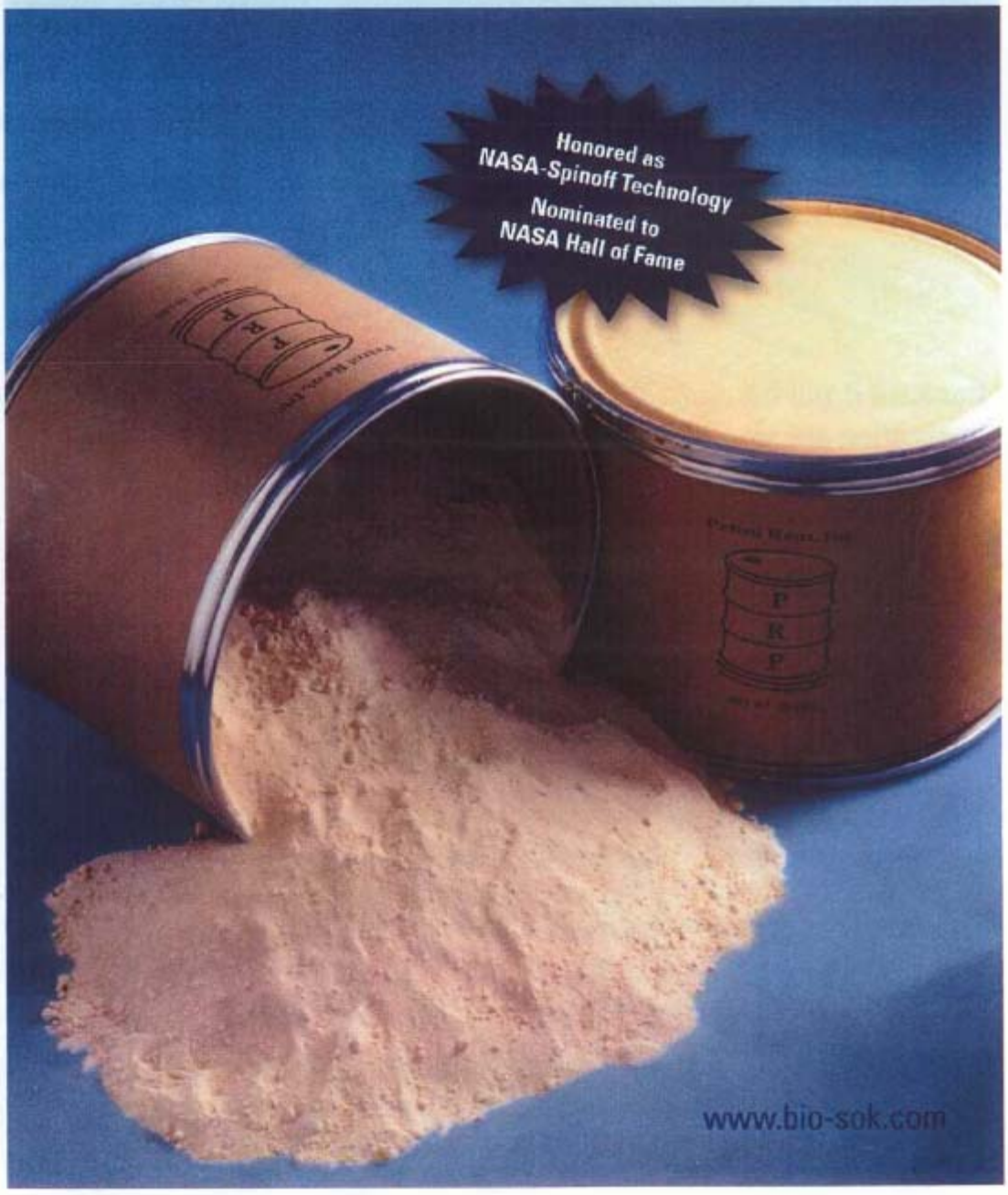
PRP For Containment

BIO-BOOM® has many applications for use in marinas, drainage ditches, holding ponds and lagoons. Because it biodegrades as well as contains the contaminant, **BIO-BOOM®** is an indispensable tool to help keep the environment clean.

BIO sok®

PRP For Bilge Maintenance

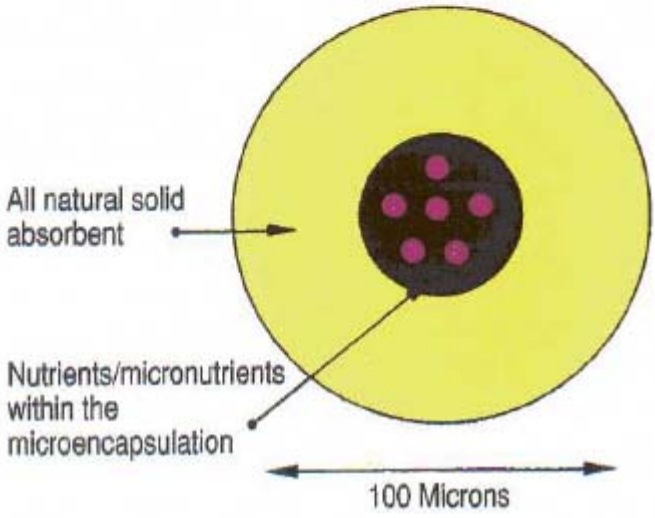
BIO-SOK® Bilge Maintenance System is an environmentally sound way to keep marina waters free of bilge oil. Placed inside the bilge, the **BIO-SOK®** begins to absorb leaking oil, and the natural microorganisms start immediately to eat and biodegrade that oil.



PRP® OIL BUSTER

Hydrocarbon Spill Response Product

PRP® (OIL BUSTER™) can be applied on most tracts of land and clings to most surfaces. It is effective in fresh and salt water to control the spreading of oil spills in a one step application. It significantly enhances the biodegration of the spill. The product then ultimately biodegrades itself.



- ***Hydrophobic and oleophilic***
- ***Nontoxic and nonhazardous***
- ***Stimulates indigenous microorganisms***
- ***Bioaugments the degradation of the spill***
- ***Minimizes volatilization***

Because it will not sink and repels water even after oil absorption, the benefits of PRP® application are significant:

- Rapid clean-up is facilitated.
- Hard to reach areas such as sensitive marshlands can be treated remotely. If left in place, the PRP® and oil will biodegrade, minimizing any toxic effects of the oil.
- PRP® reduces potential for the coating of mammals, wildlife, and plants which typically results in severe damage.
- Damage to beaches is minimized because the contamination is prevented from getting below the surface.
- If removal of the PRP®/oil matrix is preferred, total recovered volumes are minimal, unlike vacuum systems which generate large volumes of contaminated water and minimal amounts of oil. The recovered matrix can then be landfarmed and bioremediated.

Apply PRP® on transfer areas, marshlands, drainage ditches, wetlands, holding ponds, lagoons, shores, marinas, and harbors. Reduce disposal costs of oil contaminated water at industrial sites or spill clean-up operations by using PRP® to separate the oil from the water.